

REMARKS

Applicants acknowledge receipt of the Office Action dated December 24, 2004, in which the Examiner rejected claims 1-3, 8 and 9 as obvious over Figueroa et al. (US 6635191) or Reyes et al. (US 6726850) in view of Zhou (US 6740615) or Vaarkamp (US 6753285), rejected claims 4-7 and 10-22 as indefinite, and rejected claims 1-22 under the judicially created doctrine of obviousness-type double patenting over claims 1-23 of US Patent 6,764,662. Applicants have amended the claims as shown above and respectfully traverse the rejections for the reasons set out below.

§ 103 Rejection

In order to establish a *prima facie* case of obviousness, certain criteria must be met. The MPEP and courts clearly require that there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference(s). MPEP § 2143. In addition, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *Id.* The failure to show any one of these criteria constitutes a failure to present a *prima facie* case for obviousness.

In support of the rejection of claims 1-3, 8 and 9, the Examiner cites Figueroa et al. or Reyes for their teachings of partial oxidation of hydrocarbons in the presence of a rhodium catalyst and cites Zhou and Vaarkamp for their teachings that rhodium catalysts should be regenerated. Applicants agree that, as acknowledged by the Examiner, Figueroa et al. and Reyes make no teaching of regeneration or recovery of rhodium from the catalyst.

Applicants respectfully disagree, however, with the Examiner's statement that the regeneration taught by Zhou and Vaarkamp "would constitute a step of 'reclaiming rhodium' as recited in applicant's claims." Contrary to the Examiner assertion, the catalyst regeneration taught by Zhou and Vaarkamp cannot be said to be a "reclamation" of rhodium. A 'regeneration' such as those disclosed by Zhou and Vaarkamp is aimed at recovering the catalyst activity (see col. 1 ll. 10-11 in Zhou) and to extend the lifetime of the precious metal catalyst (see col. 1 ll. 8-9 in Vaarkamp). By contrast, when the rhodium is 'removed from the spent catalyst' as required in Applicants' claims, the recovery of the catalyst activity is no longer possible and the catalyst lifetime is expired.

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Both Zhou and Vaarkamp teach that a spent catalyst that includes a precious metal can be regenerated by redispersing the precious metal on the surface of a catalyst support. Both Zhou and Vaarkamp are wholly directed at redispersion of the precious metal and make no teaching or suggestion whatsoever that would lead one skilled in the art to attempt to collect (for “reclaiming” or “recovering”) the precious metal. *See* Vaarkamp, col. 1, ll 51-53, and Zhou, col. 3, ll. 47-48. and col. 4, ll. 52-63.

While Applicants assert that the claims as written are distinguishable over Zhou and Vaarkamp for this reason, Applicants have also amended claim 1 to highlight the distinction by reciting that at least a portion of the rhodium be *removed* from the spent catalyst via an acid solution, and then *isolated* from the acid solution and *recovered*. None of the present references teach or suggest such a method.

Furthermore, the teachings of Zhou and Vaarkamp would not enable one skilled in the art to reclaim or recover the precious metal. The treatments taught by Zhou and Vaarkamp each result only in the redispersion of the precious metal and would not result in removal and recovery of the precious metal from the catalyst support. Thus, Applicants respectfully submits that Examiner has failed to show any of the required criteria set forth in MPEP § 2143 for a *prima facie* case of obviousness. Even if one combined the teachings of Zhou and Vaarkamp with those of Figueira and Reyes, one would not come up with all the limitations recited in the present claims and one would not have a system for recovering rhodium from spent catalyst.

§ 112 Rejection

Claim 4 has been amended to recite that the final product is recovered. The phrase “from the second species” has been deleted in order to remove the basis for indefiniteness. The scope of the limitation is intended to include both methods in which the final product is physically separated from the second intermediate species *and* methods in which the second intermediate species is reacted to obtain the final product. Applicants respectfully submit that this amendment cures the basis for this rejection. If the Examiner disagrees, he is requested to provide more details about the nature of the ambiguity.

Double-patenting Rejection

Applicants submit herewith a Terminal Disclaimer over commonly owned U.S. Patent 6,764,662 and respectfully request that the double-patenting rejection be withdrawn.

Conclusion

Applicants believe that they have fully responded to the Office Action and that the claims as amended are allowable. Applicants respectfully request withdrawal of the rejections and allowance of the claims. If the Examiner has any questions or comments, or otherwise feels it would be advantageous, he is encouraged to telephone the undersigned at (713) 228-8043.

Respectfully submitted,



Marcella Watkins

Reg. No. 36,962

CONLEY ROSE, P.C.

P. O. Box 3267

Houston, Texas 77253-3267

(713) 238-8000

ATTORNEY FOR APPLICANTS